## REMARKS

The application has been carefully reviewed in light of the Office action, and amended as necessary to more clearly and particularly describe the subject matter that Applicant regards as the invention.

Claims 1-7 are pending in the present application. In this Amendment "B", claim 1 has been amended to recite that the operation of the active electro-optical filtering device is "*for dazzle protection*", and claim 6 has been amended to better conform to U.S. practice. More specifically, claim 6 has been amended to no longer depend from claim 1 and, instead, to positively recite that the device performs the steps or functions recited in claim 1. Reconsideration of the present application in its current form is hereby requested.

The Examiner has rejected claim 6 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,315,099 to Gunz et al. and has rejected claims 1-3 and 7 under 35 U.S.C. §103(a) as being unpatentable over the Gunz et al. patent in view of U.S. Patent No. 3,961,840 to Morokawa et al. In light of the amendments made to claim 6, Applicant will address the rejection of all of the claims (including claim 6) in light of both the Gunz et al. patent and the Morokawa et al. patent.

The Gunz et al. patent discloses a glare protective mask 1 having a glare shielding device 2. The shielding device 2 comprises a safety shield 5 that includes first and second polarizers and a liquid crystal cell 15. An electronic circuit applies an operating voltage to the liquid crystal cell 15. The electronic circuit includes a photodetector 9 connected to a threshold switch 12, which, in turn, is connected to an oscillator 13. In response to an "on" signal from the threshold switch 12, the oscillator 13 generates an alternating voltage signal, which is fed to an LCD driver 14 that drives the liquid crystal cell 15. The frequency of the voltage signal is a low 0.1

Hertz, which significantly decreases the power consumption of the shielding device 2. The threshold switch 12 is also connected to a pulse shaper 26 and a DC/DC voltage amplifier 17, which provide the "on" signal with a sharp starting edge in order to increase the switching speed (column 4, lines 11-15). This sharpened "on" signal is provided to a change-over switch 18 in order to temporarily increase the voltage applied to the liquid crystal cell 15.

From the Gunz et al. patent, one skilled in the art learns that a visible penetration of light during a crossover or switch in polarity of a voltage signal supplied to a liquid crystal display can blind a user of a shielding device, and that in order to avoid such a visible penetration of light, the switch in polarity should be performed quickly (see column 1, lines 22-30). Accordingly, the Gunz et al. patent teaches providing the "on" signal with a sharp starting edge in order to increase the switching speed.

The Morokawa et al. patent discloses a driving circuit for a liquid crystal display. The driving circuit includes a voltage source for supplying an alternating voltage across the liquid crystal display. In Fig. 8, the frequency of the voltage is disclosed as being 32 Hz. Switch means are connected between the voltage source and the liquid crystal display. The switch means short-circuits the liquid crystal display during every change of polarity of the voltage source by connecting the liquid crystal display to a low impedance path. The short-circuiting of the voltage source introduces a delay in the switch in polarity, as is graphically shown in Figs. 4a-d and as is described in column 1, lines 56-57.

In rejecting claims 1-3 and 7, the Examiner finds that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to drive the optical filter element between 0.01 and 1 Hz as taught by Gunz with anti-polar

drive pulses and the short-circuit switch where the short circuit times are shorter than the time durations as taught by Morokawa to reduce power consumption.

Initially, Applicant submits that although both the Morokawa et al. patent involves liquid crystals, the Morokawa et al. patent is non-analogous art. . "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant"s endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). The Morokawa et al. patent is directed to displays utilizing liquid crystals, such as displays for watches, whereas the present invention and the Gunz et al. patent are directed to shielding devices for providing shielding against radiant energy. Thus, the Morokawa et al. patent is clearly not in the field of endeavor of the present invention, or the Gunz et al.patent. This has been recognized by the USPTO itself through the USPTO's different classification of the Gunz et al. patent and the Morokawa et al. patent. The Gunz et al. patent is classified in Class 25, which is radiant energy, while the Morokawa et al. patent is classified in Class 345, which is for computer graphics processing, operator interface processing, and selective visual display systems.

Driving circuits for displays, such as the driving circuit of the Gunz et al. patent, have different concerns than the driving circuits of shielding devices, such as the shielding device of the present invention or the shielding device of the Gunz et al. patent. Displays contain a plurality of liquid crystal cells or pixels, whereas a shielding device typically contains only one liquid crystal cell. Thus, driving circuits for displays are typically concerned with driving rows or columns of pixels and, hence, are primarily focused on issues such as multiplexing. In this regard, the switch-on time for any single pixel of a display is not of critical importance. Due to

low light intensities and the limited perception speed of the human eye and brain, a temporary increase in pixel or segment brightness in a display is not perceived. In contrast, for a driving circuit of a shielding device, switch-on time and transmission minimization are of paramount importance.

For at least the foregoing reasons, Applicant submits that the Morokawa et al. patent is non-analogous art and should not be combined with the Gunz et al. patent.

Even if the Morokawa et al. patent is considered analogous art, Applicant submits that there is no motivation to combine the Morokawa et al. patent with the Gunz et al. patent. As set forth above, the Gunz et al. patent teaches that the switch in polarity of the voltage supplied to the liquid crystal should be performed quickly. In direct contrast, the Morokawa et al. patent teaches delaying the switch in polarity. Thus, the teaching of the Morokawa et al. patent runs counter to the teaching of the Gunz et al. patent. In addition, the Gunz et al. patent teaches using low frequencies, whereas the Morokowa et al. patent teaches using relatively high frequencies. One skilled in the art of shielding radiant energy, upon reading the Morokawa et al. patent would be discouraged from using the short circuiting technique disclosed therein in a shielding device because the technique increases switching time, which is not desirable, as is evidenced by the Gunz et al. patent. In this regard, one skilled in the art of shielding radiant energy would give much more credence to the teaching of the Gunz et al. patent than the teaching of the Morokawa et al. patent because the Gunz et al. patent is in the pertinent field of endeavor, i.e., radiant energy shielding, whereas the Morokawa et al. patent is concerned with an unrelated field of endeavor, namely displays. The Federal Circuit has found that "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference....", and that

"[t]here is no suggestion to combine [] if a reference teaches away from its combination with another source." *Tec Air, Inc. v. Denso Manufacturing Michigan Inc.*, 52 USPQ2d 1294, 1298 (Fed. Cir. 1999). Thus, Applicant submits that pursuant to the *Tec Air, Inc.* case and other relevant case law, there is no suggestion or motivation to combine the Morokawa et al. patent with the Gunz et al. patent, as the Examiner has done.

For at least the foregoing reasons, Applicant submits that the Examiner has failed to establish a prima facie case of obviousness and that claims 1-3, 6 and 7 are patentable over the Gunz et al. patent and the Morokawa et al. patent, alone and in combination.

The Examiner has rejected claim 4 under 35 U.S.C. §103(a) as being unpatentable over the Gunz et al. patent and the Morokawa et al. patent and further in view of admitted prior art, which includes equations 1 and 2 set forth on pages 2 and 3 of the specification. The admitted prior art does not disclose using a short-circuiting technique in a shielding device and, thus, does not cure the deficiencies of the rejection of independent claim 1 (from which claims 4 and 5 depend) based on the Gunz et al. patent and the Morokawa et al. patent. Thus, the Gunz et al. patent, the Morokawa et al. patent and the admitted prior art fail to show or suggest independent claim 1 and, thus, dependent claims 4 and 5.

With regard to claim 4, Applicant submits that if a person skilled in the art of radiant energy shielding would consider equation 2 in light of the Gunz et al. patent and the Morokawa et al. patent, the person would desire to minimize $I^*$ and would do so by minimizing $\Phi_{1R}$. According to the present invention, however, it is not necessary to minimize $\Phi_{1R}$. Rather, it is sufficient to have $\Phi_{1R}$ in the range recited in claim 4, namely "smaller than or equal to a transmission term of the optical filter

element (1)". As a result, the operating voltage may be limited, which reduces power consumption. This gives an overall optimal operation of the active element, in contrast to the simple minimization of $\Phi_{1R}$. For at least this additional reason, Applicant submits that the Gunz et al. patent, the Morokawa et al. patent and the admitted prior art fail to show or suggest dependent claim 4.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge the same to our Deposit Account No. 18-0160, our Order No. FRR-12655.

Respectfully submitted,

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